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2005 MARTEN HARVEST SURVEY

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ABSTRACT

A survey was completed to determine the number of marten permit holders who set traps for marten, the number of marten caught, the types of traps used, and the number of days trapped. In 2005, 545 trappers obtained a permit to trap marten. About 56% of the permit holders set traps for marten (305 trappers) and 56% also set traps for fisher (305). Trappers spent nearly 2,700 days trapping marten ($\bar{x}$ = 9 days/trapper), captured 249 marten (included animals released alive), and registered 162 marten (included incidentally caught animals). About 53% of trappers captured at least one marten. Compared to 2004, the number of furtakers trapping marten decreased 8%, the days of effort decreased 11%, and the number of marten captured declined 23%. Furtakers trapping fisher were not required to obtain a marten permit; thus, estimates associated with fisher only represent trappers that obtained a marten permit. Marten permit holders spent nearly 3,300 days trapping fisher ($\bar{x}$ = 11 days/trapper), captured 327 fisher (included animals released alive), and registered 213 fisher (included incidentally caught animals). About 46% of trappers captured at least one fisher.

INTRODUCTION

The Wildlife Division has the authority and responsibility to protect and manage the wildlife resources of the State of Michigan. Harvest surveys are a management tool used by the Wildlife Division to help accomplish this statutory responsibility. The main objectives of this harvest survey were to determine the number of trappers who set traps for marten (*Martes americana*), the types of traps used, the number of days trapped, and the number of marten that were caught. Because marten trappers frequently seek to catch fisher (*M. pennanti*), they also were asked whether they attempted to trap fisher. If they trapped fisher, they were asked to report the number of days they trapped and the number of fisher caught.

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Efforts to restore the American marten have been successful throughout the Upper Peninsula (UP). As a result, marten were removed from the state's threatened species list in March 1999. A marten trapping season was created in 2000, establishing the first legal harvest of marten since 1924.

The marten trapping season was 15 days in the UP (December 1-15), which was concurrent with the fisher trapping season. The entire UP, except Drummond Island and the Pictured Rocks National Lakeshore, was open to marten trapping. In order to trap marten, trappers were required to obtain a free marten trapping permit, in addition to a Fur Harvester License. Furtakers trapping fisher were not required to obtain a marten permit; thus, estimates associated with fisher trapping do not include all furtaker participation, effort, or harvest. Rather, these estimates only represent the participation, effort, or harvest of trappers that obtained a marten permit. Trappers were limited to one marten and three fisher. Although trappers could take three fisher, only one fisher could be taken from Management Unit B (Figure 1). Successful trappers were required to register all fisher and marten taken by December 20, 2005. Trappers were not allowed to keep incidental marten and fisher that were caught. However, trappers were required to bring these incidental catches to a registration station if they could not be released alive. Trappers could use body-gripping (conibear type) traps and foothold traps to capture marten. Live traps were also legal if set within 150 yards of a residence or farm building.

METHODS

A questionnaire was sent to everyone who obtained a marten trapping permit in 2005 (545 permit holders). Trappers receiving the questionnaire were asked to report if they trapped marten or fisher, number of days spent afield, number of marten and fisher caught and released alive, and number of marten and fisher registered (registration estimates included incidentally caught animals that were not returned to the trapper). Trappers were also asked to indicate their impression of the status of the marten and fisher populations in the county where they primarily trapped (i.e., absent, stable, increasing, or decreasing).

Although all permit holders were sent a questionnaire, not everybody returned their questionnaire. To extrapolate from the permit holders that returned their questionnaire to all permit holders, estimates were calculated using a simple random sampling design (Cochran 1977) and were presented along with their 95% confidence limit (CL). This confidence limit can be added and subtracted from the estimate to calculate the 95% confidence interval. The confidence interval is a measure of the precision associated with the estimate and implies that the true value would be within this interval 95 times out of 100. Estimates were not adjusted for possible response or nonresponse bias.

Statistical tests are used routinely to determine the likelihood that the differences among estimates are larger than expected by chance alone. The overlap of 95% confidence intervals was used to determine whether estimates differed. Non-overlapping 95% confidence intervals was equivalent to stating that the difference between the means was larger than would be expected 995 out of 1,000 times, if the study had been repeated (Payton et al. 2003). The 2005 estimate of marten registered included incidental animals that the trapper was not

allowed to keep; estimates from previous years excluded incidental animals. Thus, these estimates are not directly comparable.

Questionnaires were mailed initially during mid-January 2006, and up to two follow-up questionnaires were mailed to nonrespondents. Questionnaires were undeliverable to eight permit holders. Questionnaires were returned by 420 of 537 people receiving the questionnaire (78% response rate).

RESULTS AND DISCUSSION

Marten

In 2005, 545 trappers obtained a permit to trap marten. Men obtained most of these permits (512). Women obtained 32 permits, and the sex of one permit holder was unknown. About 56 ± 2% of the permit holders set traps for marten (305 trappers). Among these trappers, 64 ± 8 trapped marten but not fisher. Trappers spent 2,739 days trapping ($\bar{x}$ = 9.0 ± 0.4 days/trapper), captured 249 marten, and registered 162 marten (Table 1). About 53 ± 3% of trappers successfully captured at least one marten. The greatest numbers of marten were captured in Gogebic (44), Alger (39), and Chippewa (36) counties.

Compared to 2004, the number of people trapping marten decreased 8% (305 versus 330 trappers), and trapping effort decreased 11% (2,739 versus 3,078 days) (Figure 2). The number of marten captured decreased 23% (249 versus 323 marten, included animals that were released alive).

Most trappers used conibear-type traps to capture marten (80 ± 2%), although foothold traps also were used frequently (41 ± 3%). Among trappers using conibear traps, the mean number of conibear traps set was 5.4 ± 0.3 traps. Among trappers using foothold traps, the mean number of foothold traps set was 3.9 ± 0.3 traps.

Thirty-two percent of marten trappers (±3%) believed marten numbers were increasing in the county where they trapped most often, while 46 ± 3% thought marten numbers were stable, 7 ± 2% thought that marten were declining, 8 ± 2% indicated that marten were not present, and 7 ± 2% did not comment on the status of marten.

Fisher

About 56 ± 2% of the marten permit holders also set traps for fisher (305 trappers). Among these trappers, 64 ± 8 trapped fisher only (i.e., they did not report attempting to trap marten). Nearly 79 ± 2% of the trappers that had attempted to catch marten also attempted to trap fisher (241 ± 12 trappers). Trappers spent 3,325 days trapping (10.9 ± 0.5 days/trapper), captured 327 fisher, and registered 213 fisher (Table 2). About 46 ± 3% of trappers successfully captured at least one fisher. The greatest number of fisher were captured in Gogebic (80), Iron (38), Ontonagon (38) and Luce (35) counties (Table 2).

Most trappers used conibear-type traps to capture fisher (77 ± 3%), although foothold traps also were used frequently (50 ± 3%). Among trappers using conibear traps, the mean number

of conibear traps set was 5.9 ± 0.3 traps. Among trappers using foothold traps, the mean number of foothold traps set was 5.2 ± 0.4 traps.

Thirty percent of fisher trappers (± 3%) believed that fisher numbers were increasing in the county where they trapped most often, while 44 ± 3% thought fisher numbers were stable, 14 ± 2% thought they were declining, 6 ± 1% indicated that fisher were absent, and 6 ± 2% did not comment on the status of fisher.

Among trappers that set traps for fisher, 11 ± 2% caught marten in their fisher sets and 6 ± 1% caught bobcats in their fisher sets. These trappers caught 64 ± 13 marten and 34 ± 8 bobcats in their fisher sets.

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Table 1. Estimated number of trappers, trapping effort, marten captured (including all incidental catches and releases), marten released alive, and marten registered (including incidental catches) during the 2005 Michigan trapping season.

	Trappers		Trapping effort (days)		Marten captured[a]		Marten released alive		Marten registered[b]	
County	Total	95% CL[c]	Total	95% CL[c]	Total	95% CL[c]	Total	95% CL[c]	Total	95% CL[c]
Alger	29	6	217	49	39	10	16	6	23	5
Baraga	17	4	157	48	13	5	4	3	9	3
Chippewa	52	7	398	69	36	8	12	4	25	5
Delta	12	4	130	45	3	2	1	1	1	1
Dickinson	9	3	61	27	0	0	0	0	0	0
Gogebic	43	7	382	69	44	19	22	17	22	5
Houghton	12	4	141	46	4	3	1	1	3	2
Iron	27	5	285	61	18	7	3	2	16	6
Keweenaw	8	3	66	30	4	2	0	0	4	2
Luce	36	6	226	47	26	7	8	4	18	4
Mackinac	13	4	83	30	0	0	0	0	0	0
Marquette	25	5	175	48	19	6	4	2	16	4
Menominee	3	2	39	26	0	0	0	0	0	0
Ontonagon	18	4	199	54	3	2	0	0	3	2
Schoolcraft	13	4	104	35	8	4	3	2	5	2
Unknown	22	5	77	30	32	11	14	8	18	5
Statewide[d]	305	12	2,739	175	249	27	87	21	162	12

[a]All marten that were removed from traps, including all incidental catches and releases.
[b]Includes incidentally caught marten that were not returned to the trapper.
[c]95% confidence limits.
[d]Number of trappers does not add up to statewide total because trappers could trap in more than one county. Column totals for trapping effort and capture may not equal statewide totals because of rounding errors.

Table 2. Estimated number of trappers, trapping effort, fisher captured (including all incidental catches and releases), fisher released alive, and fisher registered (including incidental catches) by trappers that obtained a marten permit for the 2005 Michigan trapping season.

	Trappers		Trapping effort (days)		Fisher captured[a]		Fisher released alive		Fisher registered[b]	
County	Total	95% CL[c]	Total	95% CL[c]	Total	95% CL[c]	Total	95% CL[c]	Total	95% CL[c]
Alger	26	5	252	57	14	5	4	3	10	4
Baraga	17	4	189	53	8	3	1	1	6	3
Chippewa	39	6	385	71	21	6	5	3	16	4
Delta	12	4	121	43	3	2	0	0	3	2
Dickinson	12	4	101	35	3	2	1	1	1	1
Gogebic	47	7	476	80	80	31	40	26	40	10
Houghton	13	4	167	52	10	5	1	1	9	4
Iron	38	6	400	72	38	12	8	6	30	9
Keweenaw	8	3	73	31	4	2	0	0	4	2
Luce	27	5	208	47	35	20	27	19	8	3
Mackinac	13	4	105	35	1	1	0	0	1	1
Marquette	22	5	204	54	22	8	0	0	22	8
Menominee	6	3	83	36	3	2	0	0	3	2
Ontonagon	29	6	289	64	38	14	10	7	27	9
Schoolcraft	16	4	128	39	5	2	1	1	4	2
Unknown	31	6	143	40	43	14	14	7	29	8
Statewide[d]	305	12	3,325	198	327	44	114	34	213	20

[a]All fisher that were removed from traps, including all incidental catches and releases.
[b]Includes incidentally caught fisher that were not returned to the trapper.
[c]95% confidence limits.
[d]Number of trappers does not add up to statewide total because trappers could trap in more than one county. Column totals for trapping effort and capture may not equal statewide totals because of rounding errors.

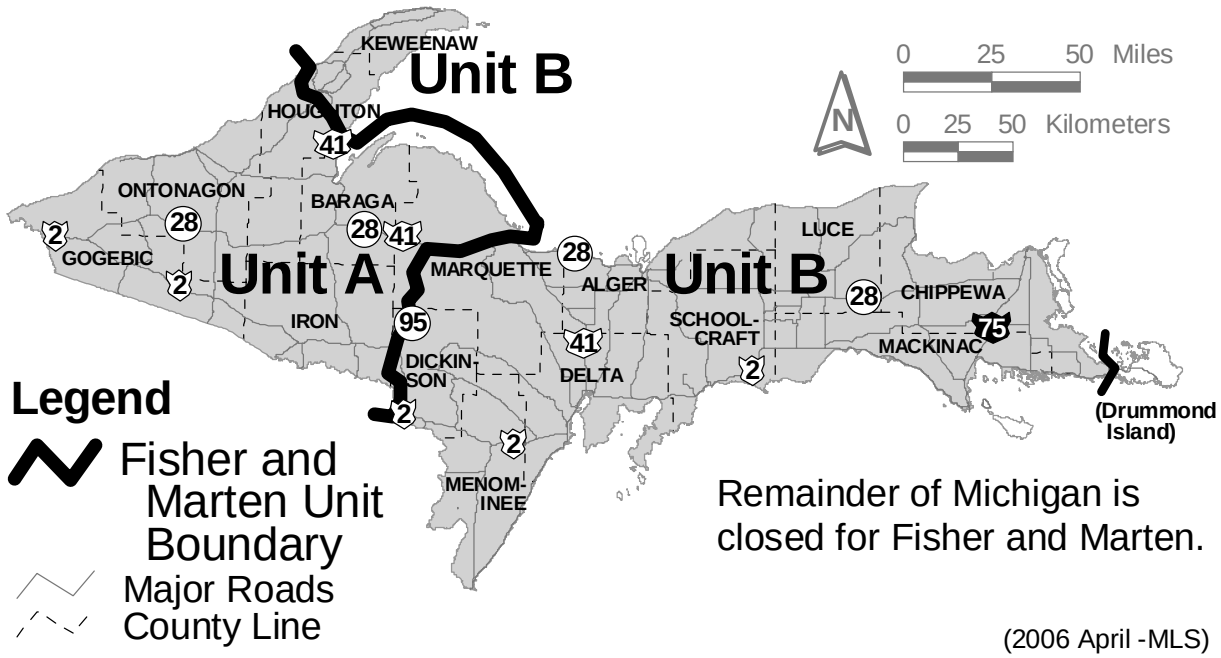

Figure 1. Marten and fisher management units in Michigan, 2005.

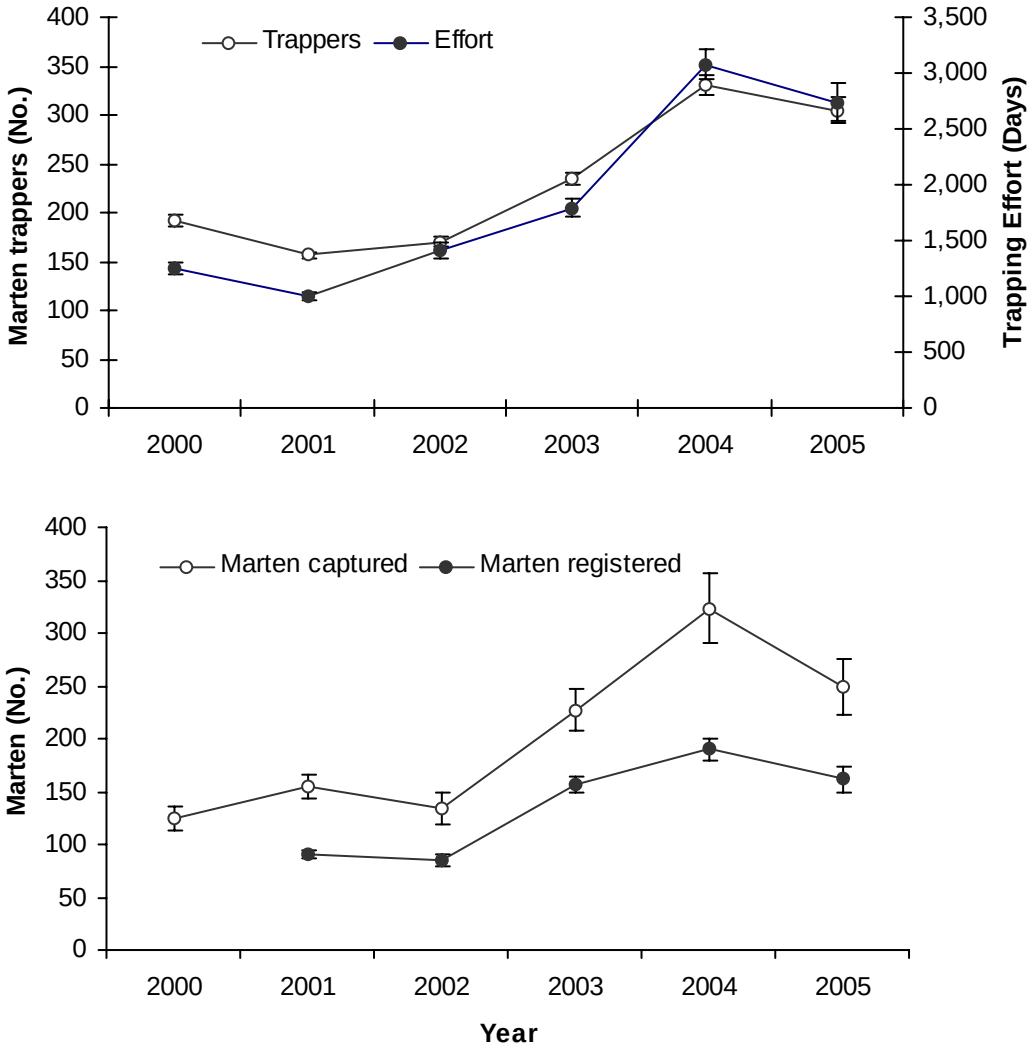

Figure 2. Estimated number of trappers, trapping effort (days), and number of marten captured and registered in Michigan, 2000-2005. Registration total was not estimated in 2000. The 2005 estimate of marten registered included incidental animals that the trapper was not allowed to keep; estimates from previous years excluded incidental animals.